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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/517,681

03/02/2000

David Emil Nelson

DP-300478

5027

7590

11/30/2004

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EXAMINER

WILLIAMS, JOSEPH L

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/517,681	Applicant(s) NELSON, DAVID EMIL	
	Examiner Joseph L. Williams	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 27-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 11-20 and 22-25 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 21 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 27-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/9/2004.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 6-9, 11-20, and 22-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson et al. (US 6,638,484 B2), of record by Applicant.

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Nelson ('484) teaches in figures 1 and 3, a non-thermal plasma reactor characterized by: an element prepared from a monolith comprising a plurality of channels separated by substantially planar dielectric barriers and a perimeter boundary wall, said element comprising: a plurality of exhaust channels for passing a flow of gas therethrough; and a plurality of conductive channels connected alternately with first positive and then negative polarity electric field.

Regarding claim 2, Nelson ('484) teaches the monolith is formed by extrusion.

Regarding claim 3, Nelson ('484) teaches the conductive channels form an alternating sequence of polarity separated by said exhaust channels.

Regarding claim 4, Nelson ('484) teaches the multiple exhaust channels are provided between said conductive channels.

Regarding claim 6, Nelson ('484) teaches the monolith comprises a frontal area and a length selected so as to optimize fit, cost, conversion efficiency, or a combination thereof, of said non-thermal plasma reactor.

Regarding claim 7, Nelson ('484) teaches the monolith comprises a frontal area that is sufficiently large to achieve a low backpressure and wherein monolith length is

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adjusted to achieve a desired gas space velocity in accordance with particular engine emissions.

Regarding claim 8, Nelson ('484) teaches the conductive channels comprise conductive material disposed upon selected areas of selected channel walls.

Regarding claim 9, Nelson ('484) teaches the conductive media is intimately disposed against interior walls of said conductive channels so as to enhance electron injection into said monolith.

Regarding claim 11, Nelson ('484) teaches the conductive channels are connected using internal conducting paths to a common bus path for each polarity.

Regarding claim 12, Nelson ('484) teaches the monolith further comprises integral structural support ligaments.

Regarding claim 13, Nelson ('484) teaches the structural support ligaments within said conductive channels are coated with conductive media.

Regarding claim 14, Nelson ('484) teaches the monolith further comprises structural support ligaments and wherein a portion of said structural support ligaments are removed at one or both ends of said monolith.

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Regarding claim 15, Nelson ('484) teaches the reactor is coated with an insulating encapsulent.

Regarding claim 16, Nelson ('484) teaches a matt support exterior to said monolith.

Regarding claim 17, Nelson ('484) teaches the matt comprises an intumescent insulating matt.

Regarding claim 18, Nelson ('484) teaches an insulating seal provided over wire terminations to prevent voltage leaks.

Regarding claim 19, Nelson ('484) teaches a reactor housing for housing said element.

Regarding claim 20, Nelson ('484) teaches a wire system for connecting said element to a power source.

Regarding claim 22, Nelson ('484) teaches the end portions of said conductive channels are uncoated.

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Regarding claim 23, Nelson ('484) teaches the conductive media is disposed in a staggered coating pattern so that alternating end portions of conductive channels remain uncoated.

Regarding claim 24, Nelson ('484) teaches the monolith comprises a ceramic monolith having narrow conductive channels at individual parallel step levels.

Regarding claim 25, Nelson ('484) teaches the monolith comprises a co-extruded ceramic-metal foil monolith.

Allowable Subject Matter

4. Claims 5, 10, 21, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

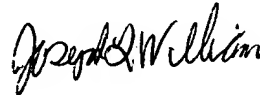
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph L. Williams
Primary Examiner
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